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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,321	07/13/2005	Masayoshi Mori	101173-00024	8916

4372 7590 05/19/2006

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EXAMINER

NGUYEN, HOANG M

ART UNIT	PAPER NUMBER
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3748

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/542.321

Applicant(s)

MORI, MASAYOSHI

Examiner

Hoang M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8-10 is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☒ Claim(s) 3-7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Applicant's amendment dated April 24, 2006, has been fully considered.

Applicant has argued Hesse et al does not disclose the specific arrangement of the claimed elements. The Examiner agrees and the rejection has been withdrawn.

However, a new ground of 103 (a) rejection has been made to reject claims 1-2. A new reference, US 5346031 (Gardner), discloses a hybrid motor vehicle comprising an internal combustion engine 22, an electric generator 78, a battery 58, and an electric motor 12 for driving an auxiliary machine 13 through clutch 14. Gardner does not disclose the Stirling engine. Johansson is relied upon to disclose a Stirling engine as noted in the previous Office Action. It would have been obvious to utilize a Stirling engine in Gardner as taught by Johansson for the purpose of using the waste heat from the internal combustion engine to generate energy to avoid heat loss.

Claims 3-7, are objected to on the merit. New claims 8-10 are allowed.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5346031 (Gardner) in view of U.S. 6543229 (Johansson). US 5346031 (Gardner),

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discloses a hybrid motor vehicle comprising an internal combustion engine 22, an electric generator 78, a battery 58, an electric motor 12 for driving an auxiliary machine 13 through clutch 14. Gardner does not disclose the drive mechanism is a Stirling engine using waste heat from the internal combustion engine. Johansson is relied upon to disclose a power plant comprising a Stirling engine 14 using waste heat from the internal combustion engine 12. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use Stirling engine using waste heat of the ICE in Gardner as taught by Johansson for the purpose of utilizing the waste heat to reduce cost and reserve power of the ICE.

Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Gardner in view of U.S. 6543229 (Johansson) and JP 2000-310158 (Sakai). Gardner as modified discloses all the claimed subject matter as set forth above in the rejection of claim 1, but does not disclose the engine speed control for the Stirling engine. Sakai is relied upon to disclose a power plant comprising a Stirling engine 3 having a controller 5 for controlling the Stirling engine in response to an engine speed. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to use engine speed control in the Stirling engine in Gardner as taught by Sakai for the purpose of generating an appropriate amount of energy in response to the engine speed.

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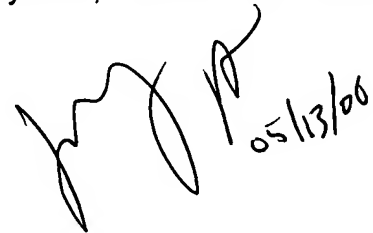
Claims 3-7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 8-10 are allowed.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Examiner Nguyen whose telephone number is (571) 272-4861. The examiner can normally be reached on Tuesday--Friday from 12:30 AM to 10:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion can be reached on 571-272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



HOANG NGUYEN
PRIMARY EXAMINER
ART UNIT 3748

Hoang Minh Nguyen
5/13/2006